

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

| | | |
|--|---|---|
| Applicant's or agent's file reference 049PCT 1318 | FOR FURTHER ACTION | See item 4 below |
| International application No. PCT/EP2004/011154 | International filing date (<i>day/month/year</i>) 06 October 2004 (06.10.2004) | Priority date (<i>day/month/year</i>) 06 October 2003 (06.10.2003) |
| International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237 | | |
| Applicant EMS-CHEMIE AG | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|---|---|-----------|---------------------|-------------------------------------|------------|----------|--------------------------|-------------|--|--------------------------|------------|----------------------------|-------------------------------------|-----------|---|--------------------------|------------|-------------------------|--------------------------|-------------|--|--------------------------|--------------|---|
| 1. | This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a). | | | | | | | | | | | | | | | | | | | | | | | | |
| 2. | This REPORT consists of a total of 7 sheets, including this cover sheet. In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead. | | | | | | | | | | | | | | | | | | | | | | | | |
| 3. | <p>This report contains indications relating to the following items:</p> <table style="width: 100%;"> <tr> <td style="width: 10%; text-align: center;"><input checked="" type="checkbox"/></td> <td style="width: 30%;">Box No. I</td> <td style="width: 80%;">Basis of the report</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table> | <input checked="" type="checkbox"/> | Box No. I | Basis of the report | <input checked="" type="checkbox"/> | Box No. II | Priority | <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability | <input type="checkbox"/> | Box No. IV | Lack of unity of invention | <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement | <input type="checkbox"/> | Box No. VI | Certain documents cited | <input type="checkbox"/> | Box No. VII | Certain defects in the international application | <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report | | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> | Box No. II | Priority | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention | | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. VI | Certain documents cited | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application | | | | | | | | | | | | | | | | | | | | | | | |
| 4. | The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2). | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | |
|---|---|--|---|
| The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. +41 22 338 82 70 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Date of issuance of this report 27 July 2006 (27.07.2006)</td> </tr> <tr> <td style="padding: 5px;">Authorized officer Agnes Wittmann-Regis e-mail: pt06@wipo.int</td> </tr> </table> | Date of issuance of this report 27 July 2006 (27.07.2006) | Authorized officer Agnes Wittmann-Regis e-mail: pt06@wipo.int |
| Date of issuance of this report 27 July 2006 (27.07.2006) | | | |
| Authorized officer Agnes Wittmann-Regis e-mail: pt06@wipo.int | | | |

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

Translation

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing (day/month/year) **See Form PCT/ISA/210 (sheet 2)**

Applicant's or agent's file reference

049PCT 1318

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/EP2004/011154

International filing date (day/month/year)

06.10.2004

Priority date (day/month/year)

06.10.2003

International Patent Classification (IPC) or both national classification and IPC

C08L77/00, C08L77/10, C08K5/5313, C08K7/00

Applicant

EMS-CHEMIE AG

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP

Authorized officer

Facsimile No.

Telephone No.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2004/011154

Box No. 1

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2004/011154

Box No. II

Priority

1. ☒ The following document has not yet been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date in the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2004/011154

| | | | |
|--|--|------|-----|
| Box No. V | Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement | | |
| 1. Statement | | | |
| Novelty (N) | Claims | | YES |
| | Claims | 1-10 | NO |
| Inventive step (IS) | Claims | | YES |
| | Claims | 1-10 | NO |
| Industrial applicability (IA) | Claims | 1-10 | YES |
| | Claims | | NO |
| 2. Citations and explanations: | | | |
| 1. <u>Documents cited:</u> | | | |
| D1: WO 02/28953 A | | | |
| D2: EP-A-0 792 912 | | | |
| D3: EP-A-1 024 167 | | | |
| D4: EP-A-0 345 486 | | | |
| D5: EP-A-0 592 942 | | | |
| 2. <u>Novelty: PCT Article 33(2)</u> | | | |
| 2.1 Claim 2 has been formulated as an independent claim which contains, for example, exclusively polyamides a). The subject matter of such a claim would not be supported by the description and would not be novel over D1-D3. Were claim 2 to be formulated so as to be dependent upon claim 1, the objections cited below would nevertheless have to be considered. | | | |
| 2.2 D1 discloses, in tables 1-2, flame-retarded polyamide moulding compositions consisting of an aliphatic polyamide, a phosphinic acid salt according to the application, glass fibres and melamine polyphosphate as a heat retardant or flame retardant. According to the description of D1, both pure aliphatic polyamides and partly aromatic polyamides or a mixture of these | | | |

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2004/011154

Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability:
citations and explanations supporting such statement

polyamides can be used. The compositions of D1 have both good mechanical properties and good flame retardancy. The subject matter of claims 1-10 can thus be described from D1 by a single selection from a list of equivalent alternatives, specifically by selection of the combination of aliphatic and partly aromatic polyamides, and is thus not novel.

2.3 a) The subject matter of claims 1-10 differs from D2-D3 in that partly aromatic polyamides are used.

b) The subject matter of claims 1-10 differs from D4-D5 in that phosphinic acid salt flame retardants are used.

3. Inventive step: PCT Article 33(3)

3.1 The subject matter of claims 1-10 is considered to be an obvious selection between the alternatives cited in D1 and is thus not inventive.

3.2 a) The examples and comparative examples of the application were carried out with different amounts of the flame retardant and of the total amount of polyamides. Thus, no fair comparison can be carried out that might confirm an inventive step. The objective problem of the application is thus formulated as the provision of further, alternative flame-retarded polyamide compositions.

b) Starting from D2-D3 as the closest prior art, it is obvious to solve the abovementioned problem by adding partly aromatic polyamides according to D4-D5.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2004/011154

Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability:
citations and explanations supporting such statement

c) Furthermore, D4-D5 teach that the addition of partly aromatic polyamides in aliphatic polyamide compositions leads to an increase in the mechanical properties, especially elongation at break (D4) and/or flame retardancy (D5).

Starting from D2-D3, it is thus obvious to improve the mechanical properties of the polyamide compositions by the addition of partly aromatic polyamides according to D4-D5.

d) The subject matter of claims 1-10 is not inventive.

3.3 In order to confirm the inventive step, it would be necessary to point out the crucial feature compared to the documents cited and state whether an unexpected technical effect is associated with it and why this different feature is not discernible from the teaching of the prior art D1-D5.

4. The subject matter of claims 1-10 is industrially applicable.